

REMARKS

Status

Claims 1, 3-13, 15-18, 20, 21 and 23-28 are pending, among which claims 1 and 16 are independent claims. No amendment has been made to the claims.

Claim Rejections – 35 U.S.C. § 103

Claims 1, 3-5, 8, 10, 11, 16-18, 20, 21, 23, 25, 27 and 28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hennen in view of Miyake et al. (US Patent No. 4,471,103). Claims 6, 7, 9, 12, 13, 15 and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hennen in view of Miyake et al. and further in view of Shikinami et al.

Applicants have already traversed the rejections based on Hennen and Shikishima. For the detailed arguments regarding Hennen and Shikishima, please refer to the amendment dated August 16, 2006 and the amendment dated February 26, 2007.

Claims 1 and 16 require that an amount of the polyisocyanate to be compounded with respect to 100 parts by weight of the polyol be in the range of 1 to 30 parts by weight. Therefore, the claims require that the polyurethane resin contain less polyisocyanate than polyol. The claims also require that a mole equivalent of isocyanate group of the polyisocyanate with respect to one mole equivalent of active hydrogen contained in hydroxyl group of the polyol that can react with the isocyanate group be larger than 1. In other words, the claims require that the NCO/OH ratio be larger than 1.

The Examiner may take a position that: the “polyol component” of Miyake may be regarded as the polyol of the present invention; the “polyurethane having terminal free isocyanate group” of Miyake may be regarded as the polyisocyanate of the present invention; and the “two-package type pressure-sensitive adhesive composition” of Miyake may be regarded as the polyurethane resin of the present invention.

Applicants respectfully disagree with the Examiner's position because Miyake fails to disclose or teach that the NCO/OH ratio is larger than 1. In Miyake, the proportion of polyol with respect to the polyurethane is defined such that the number of

hydroxyl group of polyol component/(the number of free isocyanate group of polyurethane + the number of oxadiazinetrione ring) is in the range of 1.0 to 10 (claim 1). In other words, in Miyake, an $\text{OH}/(\text{NCO} + \text{the number of oxadiazinetrione ring})$ ratio is in the range of 1.0 to 10. If so, an inverse of this ratio is in the range of 0.1 to 1 (please note that claims 1 and 16 of the present application define the NCO/OH ratio). In addition, given the number of oxadiazinetrione ring contained in the numerator, the NCO/OH ratio suggested by Miyake should be lower than 1.0.

For the reason stated above, Miyake fails to disclose or teach that the NCO/OH ratio recited in claims 1 and 16. Also, since the NCO/OH ratios of Miyake and the present invention are different, the polyurethane resin of the present invention and the two-package type pressure-sensitive adhesive composition, i.e., a polyurethane resin, of Miyake should be different and not equivalent to each other.

Alternatively, the Examiner may regard the "polyurethane having terminal free isocyanate group" of Miyake as the polyurethane resin of the present invention. Even so, Miyake is still short of teaching the present invention because more isocyanate than polyol is used in Miyake.

For instance, in Example 1 of Miyake, a mixture of 50 parts of diethylene glycol, 54 parts of hexamethylene diisocyanate..., 100 parts of tolylene diisocyanate...and 51 parts of toluene was reacted at 60 °C for 4 hours to obtain a curing agent having a solid content of 80%. Thus, in Example 1, the amount of isocyanate to be compounded with respect to 100 parts by weight of polyol is 308 parts by weight. In other words, more isocyanate than polyol is used in Example 1.

In Example 3, a mixture of 8 parts of trimethylol propane, 22 parts of dipropylene glycol, 40 parts of 1,3-bis(isocyanatomethyl)cyclohexane..., 100 parts of hexamethylene diisocyanate...and 42.5 parts of ethylacetate was reacted at 60 °C for 5 hours to obtain a curing agent having a solid content of 80% and an isocyanate content of 17.1%. Thus, in Example 3, the amount of isocyanate to be compounded with respect to 100 parts by weight of polyol is 636 parts by weight. In other words, more isocyanate than polyol is used in Example 3.

Likewise, in Example 4, the amount of isocyanate to be compounded with respect to 100 parts by weight of polyol is 286 parts by weight. In Example 5, the

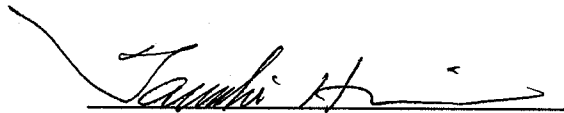
amount of isocyanate to be compounded with respect to 100 parts by weight of polyol is 182 parts by weight. In both Examples, more isocyanate than polyol is used.

Thus, Miyake fails to teach the polyurethane resin of the present invention which contains less polyisocyanate than polyol. Also, since Miyake contains more isocyanate than polyol, the polyurethane resin of the present invention and polyurethane having terminal free isocyanate group. i.e., a polyurethane resin, of Miyake should be different and not equivalent to each other.

Furthermore, there is nothing in Miyake that discloses or teaches the pressure sensitive adhesive layer formed mainly of the polyurethane resin which is used in combination with a releasing agent layer formed mainly of polyolefin resin.

For the reasons set forth above, even if the Examiner takes either of the above alternative positions, Miyake is still short of teaching the invention recited in claim 1 and 16. Applicants respectfully submit that the claimed invention is neither anticipated by nor would have been obvious in view of Hennen, Miyake and Shikinami, individually or in combination. Accordingly, withdrawal of this ground of rejection is respectfully requested.

Respectfully submitted,



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